



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/262,934	03/05/1999	YU-TO CHEN	RD-25.670	1217
6147	7590	10/07/2005	EXAMINER	
GENERAL ELECTRIC COMPANY GLOBAL RESEARCH PATENT DOCKET RM. BLDG. K1-4A59 NISKAYUNA, NY 12309			CHARIOUI, MOHAMED	
			ART UNIT	PAPER NUMBER
			2857	

DATE MAILED: 10/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/262,934	CHEN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Mohamed Charioui	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 05 March 1999.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 6-12, 15 and 16 is/are allowed.
- 6) Claim(s) 1,2,4,13,14 and 17-19 is/are rejected.
- 7) Claim(s) 3, 5 and 20 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 05 March 1999 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Objections***

1. **Claim 13** is objected to because of the following informalities: In page 12, lines 21-22, change "wherein in said calculating," to --wherein in said calculating the range between the smallest and the largest convoluted data point within each of said plurality of segments--. Appropriate correction is required.

**Claim 14** is objected to because of the following informalities: In page 12, lines 25-26, change "wherein in said calculating," to --wherein in said calculating the range between the smallest and the largest convoluted data point within each of said plurality of segments--. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claim 13** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "with the possible exception of the last segment" in claim 13 is a relative term which renders the claim indefinite. The term "with the possible exception of the last segment" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is not clear from the claim

what the applicant considers to be the last segment and whether or not this last segment is included in the calculation step. Therefore, claim 13 is considered indefinite.

**Claim 14** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "with the possible exception of the last segment" in claim 13 is a relative term which renders the claim indefinite. The term "with the possible exception of the last segment " is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is not clear from the claim what the applicant considers to be the last segment and whether or not this last segment is included in the calculation step. Therefore, claim 14 is considered indefinite

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1, 2 and 17** are rejected under 35 U.S.C. 102(b) as being anticipated by Dowling (U.S. Patent No. 5,517,585).

Dowling teaches sampling a continuous time process at a first sampling rate to generate a sampled signal having a plurality of sampled data points, convoluting the sampled signal with a wavelet signal to generate a convoluted signal having a plurality

Art Unit: 2857

of convoluted data points (see col. 5, lines 3-20); calculating the range between the smallest and largest convoluted data point within each of a plurality of segments of the convoluted signal to generate a range signal having a plurality of range data points (see col. 5, lines 45-50 and col. 6, lines 24-64); and performing a moving average calculation on the range signal to generate a moving average signal having a plurality of moving average data points (see col. 5, lines 50-60).

Regarding noise cancellation (Claim 17) (see col. 10, lines 20-26).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

**Claims 4, 18 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Dowling in view of Chen et al. (U.S. 5,899,005).

Dowling teaches the system as stated above except that the sampled signal is a phase angle signal receivable from a phase angle sensor that logs the phase angle of an electric device at the first sampling rate.

Chen et al. teach this feature (see col. 1, lines 35-51 and col. 4, lines 52-66). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate Chen et al.'s teaching into Dowling's invention because it would monitor the motor's phase angle signal to accurately determine the moisture

content of the clothes. Therefore, the drying time of the clothes would be controlled and the energy consumption of the dryer machine would be efficient.

***Allowable Subject Matter***

5. **Claims 3, 5 and 20** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Regarding claim 3**, none of the prior art of record teaches or suggests that between the sampling and convoluting, sub-sampling the sampled signal at a second sampling rate to generate a sub-sampled signal having a plurality of sub-sampled data points, the second sampling rate being less than the first sampling rate so that the number of sub-sampled data points is fewer than the number of sampled data points; and wherein in said convoluting, the sub-sampled signal is convoluted with the wavelet signal to generate the convoluted signal.

**Regarding claim 5**, none of the prior art of record teaches or suggests that between said sampling and convoluting, transforming the sampled phase angle signal by subtracting each of the plurality of sampled data points from 90 degrees to generate a transformed phase angle signal having a plurality of transformed data points; and wherein in convoluting, the transformed phase angle signal is convoluted with the wavelet signal to generate the convoluted signal.

**Regarding claim 20**, none of the prior art of record teaches or suggests sub-sampling said sampled data points at a second sampling rate to generate a plurality of sub-sampled data points; and subtracting each of the plurality of sub-sampled data

Art Unit: 2857

points from 90 degrees to generate a plurality of transformed data points; wherein the microprocessor convolutes the plurality of transformed data points with the wavelet data points to generate the plurality of convoluted data points.

6. **Claims 6-12, 15 and 16** are allowed.

The following is a statement of reasons for the indication of allowable subject matter: none of the prior art of record teaches or suggests sub-sampling the sampled phase angle signal at a second sampling rate to generate a sub-sampled phase angle signal having a plurality of sub-sampled data points, the plurality of sub-sampled data points comprising a sub-set of the plurality of sampled data points and transforming the sub-sampled phase angle signal by subtracting each of the plurality of sub-sampled data points from 90 degrees to generate a transformed phase angle signal having a plurality of transformed data points, the plurality of transformed data points being equal in number to the plurality of sub-sampled data points, in combination with the rest of the claim limitations.

***Prior art***

7. The prior art made record and not relied upon is considered pertinent to applicant's disclosure:

**Aweya et al. [‘111]** disclose ABR flow control using single bit congestion indication and wavelet transform filtering.

**Bashark [778]** discloses motor diagnostics and electronic control for clothes dryer.

**Wisecup [‘546]** discloses spatially distributed signal sampling method.

***Contact information***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohamed Chariou whose telephone number is (571) 272-2213. The examiner can normally be reached Monday through Friday, from 9 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S Hoff can be reached on (571) 272-2216. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mohamed Chariou

9/21/05

  
MARC S. HOFF  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800